Docket No.: PF-0622 USN USSN: 09/831,088 Exhibit. No.A



ClustalW Results

Sequences Help	
Retrieval BLAST2 FASTA ClustalW GCG Assembly Phrap	Translation

CLUSTAL W (1.7) Multiple Sequence Alignments

Sequence format is Pearson Sequence 1: PF-0622-USN_SEQ_ID_NO_9 4027 bp Sequence 2: gi_4165017_ACS3_Minekura_et_al 2905 bp Start of Pairwise alignments Aligning... Sequences (1:2) Aligned. Score: Start of Multiple Alignment There are 1 groups Aligning... Score:54880 Group 1: Sequences: Alignment Score 19234 CLUSTAL-Alignment file created [baaFPaqZw.aln] CLUSTAL W (1.7) multiple sequence alignment

PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GCGCCGGGCTGCGACACTGCAGTTGTCTACGCGGCCGGGGCCGGGACGAG
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GAGGCGTTGGACGGGTCGCATACGTTCGTCCCCTCGCATTGCGGCCCCG
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ACAGCTGCGCCAGGATCCCCGGGCGGCGCGCGGGGCGTGAACGCTCTGG
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GGCTCAGCCAGGCCTGCGCGGGGCCCGATGCCGGAGGAACCCGGACTCCGG
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CGTAGCGGTTTTGACACAAGGGCGCATATCTTCAAAGCACCTAGTACCTC
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CTACCATTGTCAACTGATACAGAATTCGTTGTTGGGAAGGACTGGGGAAA

PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CAGCTGTAACATTTGCCACCCTCAGAAGCTGCTGGTCCTGTGTCACACCA CAGCTGTAACATTTGCCACCCTCAGAAGCTGCTGGTCCTGTGTCACACCA *******************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CCTTAGCCTCTTGATCGAGGAAGATTCTCGCTGAAGTCTGTTAATTCTAC CCTTAGCCTCTTGATCGAGGAAGATTCTCGCTGAAGTCTGTTAATTCTAC *****************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TTTTTGAGTACTTATGAATAACCACGTGTCTTCAAAACCATCTACCATGA TTTTTGAGTACTTATGAATAACCACGTGTCTTCAAAACCATCTACCATGA ***********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AGCTAAAACATACCATCAACCCTATTCTTTTATATTTTTATACATTTTCTA AGCTAAAACATACCATCAACCCTATTCTTTTATATTTTTATACATTTTCTA **********
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ATATCACTTTATACTATTTTAACATACATTCCGTTTTATTTTTTCTCCGA ATATCACTTTATACTATTTTAACATACATTCCGTTTTATTTTTTTCTCCGA ***********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GTCAAGACAAGAAAAATCAAACCGAATTAAAGCAAAGCCTGTAAATTCAA GTCAAGACAAGA
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AACCTGATTCTGCATACAGATCTGTTAATAGTTTGGATGGTTTGGCTTCA AACCTGATTCTGCATACAGATCTGTTAATAGTTTGGATGGTTTGGCTTCA **********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GTATTATACCCTGGATGTGATACTTTAGATAAAGTTTTTACATATGCAAA GTATTATACCCTGGATGTGATACTTTAGATAAAGTTTTTACATATGCAAA **********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AAACAAATTTAAGAACAAAAGACTCTTGGGAACACGTGAAGTTTTAAATG AAACAAATTTAAGAACAAAAGACTCTTGGGAACACGTGAAGTTTTAAATG ************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AGGAAGATGAAGTACAACCAAATGGAAAAATTTTTTAAAAAAGGTTATTCTT AGGAAGATGAAGTACAACCAAATGGAAAAATTTTTAAAAAAGGTTATTCTT *******************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GGACAGTATAATTGGCTTTCCTATGAAGATGTCTTTGTTCGAGCCTTTAA GGACAGTATAATTGGCTTTCCTATGAAGATGTCTTTGTTCGAGCCTTTAA ********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TTTTGGAAATGGATTACAGATGTTGGGTCAGAAACCAAAGACCAACATCG TTTTGGAAATGGATTACAGATGTTGGGTCAGAAACCAAAGACCAACATCG ************************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CCATCTTCTGTGAGACCAGGGCCGAGTGGATGATAGCTGCACAGGCGTGT CCATCTTCTGTGAGACCAGGGCCGAGTGGATGATAGCTGCACAGGCGTGT ********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TTTATGTATAATTTTCAGCTTGTTACATTATATGCCACTCTAGGAGGTCC TTTATGTATAATTTTCAGCTTGTTACATTATATGCCACTCTAGGAGGTCC **********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AGCCATTGTTCATGCATTAAATGAAACAGAGGTGACCAACATCATTACTA AGCCATTGTTCATGCATTAAATGAAACAGAGGTGACCAACATCATTACTA ***********************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GTAAAGAACTCTTACAAACAAAGTTGAAGGATATAGTTTCTTTGGTCCCA GTAAAGAACTCTTACAAACAAAGTTGAAGGATATAGTTTCTTTGGTCCCA **********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CGCCTGCGGCACATCATCACTGTTGATGGAAAGCCACCGACCTGGTCCGA CGCCTGCGGCACATCATCACTGTTGATGGAAAGCCACCGACCTGGTCCGA

PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GTTCCCCAAGGGCATCATTGTGCATACCATGGCTGCAGTGGAGGCCCTGG CTTCCCCAAGGGCATCATTGTGCATACCATGGCTGCAGTGGAGGCCCTGG *******************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GAGCCAAGGCCAGCATGGAAAACCAACCTCATAGCAAACCATTGCCCTCA GAGCCAAGGCCAGCATGGAAAACCAACCTCATAGCAAACCATTGCCCTCA *********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GATATTGCAGTAATCATGTACACAAGTGGATCCACAGGACTTCCAAAGGG GATATTGCAGTAATCATGTACACAAGTGGATCCACAGGACTTCCAAAGGG *******************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AGTCATGATCTCACATAGTAACATTATTGCTGGTATAACTGGGATGGCAG AGTCATGATCTCACATAGTAACATTATTGCTGGTATAACTGGGATGGCAG **********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AAAGGATTCCAGAACTAGGAGAGGAAGATGTCTACATTGGATATTTGCCT AAAGGATTCCAGAACTAGGAGAGGAAGATGTCTACATTGGATATTTGCCT ********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CTGGCCCATGTTCTAGAATTAAGTGCTGAGCTTGTCTGTC
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ATGCCGCATTGGTTACTCTTCACCACAGACTTTAGCAGATCAGTCTTCAA ATGCCGCATTGGTTACTCTTCACCACAGACTTTAGCAGATCAGTCTTCAA ********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AAATTAAAAAGGAAGCAAAGGGGATACATCCATGTTGAAACCAACACTG AAATTAAAAAAGGAAGCAAAGGGGATACATCCATGTTGAAACCAACACTG ************************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ATGGCAGCAGTTCCGGAAATCATGGATCGGATCTACAAAAATGTCATGAA ATGGCAGCAGTTCCGGAAATCATGGATCGGATC
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TAAAGTCAGTGAAATGAGTAGTTTTCAACGTAATCTGTTTATTCTGGCCT TAAAGTCAGTGAAATGAGTAGTTTTCAACGTAATCTGTTTATTCTGGCCT ******************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ATAATTACAAAATGGAACAGATTTCAAAAGGACGTAATACTCCACTGTGC ATAATTACAAAATGGAACAGATTTCAAAAGGACGTAATACTCCACTGTGC *********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GACAGCTTTGTTTTCCGGAAAGTTCGAAGCTTGCTAGGGGGAAATATTCG GACAGCTTTGTTTTCCGGAAAGTTCGAAGCTTGCTAGGGGGAAATATTCG ***********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TCTCCTGTTGTGTGGTGGCGCTCCACTTTCTGCAACCACGCAGCGATTCA TCTCCTGTTGTGTGGTGGCGCTCCACTTTCTGCAACCACGCAGCGATTCA **********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TGAACATCTGTTTCTGCTGTCCTGTTGGTCAGGGATACGGGCTCACTGAA TGAACATCTGTTTCTGCTGTCCTGTTGGTCAGGGATACGGGCTCACTGAA ***********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TCTGCTGGGGCTGGAACAATTTCCGAAGTGTGGGACTACAATACTGGCAG TCTGCTGGGGCTGGAACAATTTCCGAAGTGTGGGACTACAATACTGGCAG **********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AGTGGGAGCACCATTAGTTTGCTGTGAAATCAAATTAAAAAACTGGGAGG AGTGGGAGCACCATTAGTTTGCTGTGAAATCAAATTAAAAAACTGGGAGG ********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AAGGTGGATACTTTAATACTGATAAGCCACACCCCAGGGGTGAAATTCTT AAGGTGGATACTTTAATACTGATAAGCCACACCCCAGGGGTGAAATTCTT

PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ATTGGGGGCCAAAGTGTGACAATGGGGTACTACAAAAATGAAGCAAAAAC ATTGGGGGCCAAAGTGTGACAATGGGGTACTACAAAAATGAAGCAAAAAC ****************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AAAAGCTGATTTCTTTGAAGATGAAAATGGACAAAGGTGGCTCTGTACTG AAAAGCTGATTTCTCTGAAGATGAAAATGGACAAAGGTGGCTCTGTACTG ************************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GGGATATTGGAGAGTTTGAACCCGATGGATGCTTAAAGATTATTGATCGT GGGATATTGGAGAGTTTGAACCCGATGGATGCTTAAAGATTATTGATCGT ***********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AAAAAGGACCTTGTAAAACTACAGGCAGGGAATATGTTTCTCTTGGGAA AAAAAGGACCTTGTAAAACTACAGGCAGGGAATATGTTTCTCTTGGGAA ********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AGTAGAGGCAGCTTTGAAGAATCTTCCACTAGTAGATAACATTTGTGCAT AGTAGAGGCAGCTTTGAAGAATCTTCCACTAGTAGATAACATTTGTGCAT ************************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ATGCAAACAGTTATCATTCTTATGTCATTGGATTTGTTGTGCCAAATCAA ATGCAAACAGTTATCATTCTTATGTCATTGGATTTGTTGTGCCAAATCAA ******************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AAGGAACTAACTGAACTAGCTCGAAAGAAAGGACTTAAAGGGACTTGGGA AAGGAACTAACTGAACTAGCTCGAAAGAAAGGACTTAAAGGGACTTGGGA *********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GGAGCTGTGTAACAGTTGTGAAATGGAAAATGAGCTACTTAAAGTGCTTT GGAGCTGTGTAACAGTTGTGAAATGGAAAATGAGGTACTTAAAGTGCTTT ********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CCGAAGCTGCTATTTCAGCAAGTCTGGAAAAGTTTGAAATTCTAGTAAAA CCGAAGCTGCTATTTCAGCAAGTCTGGAAAAGTTTGAAATTCCAGTAAAA ********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ATTCGTTTGAGTCCTGAACCGTGGACCCCTGAAACTGGTCTAGTGACAGA ATTCGTTTGAGTCCTGAACCGTGGACCCCTGAAACTGGTCTGGTGACAGA *********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TGCCTTCAAGCTGAAACGCAAAGAGCTTAAAACACATTACCAGGCGGACA TGCCTTCAAGCTGAAACGCAAAGAGCTTAAAACACATTACCAGGCGGACA ***************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TTGAGCGAATGTATGGAAGAAAATAATTATTCTCTTCTGGCATCAGTTTG TTGAGCGAATGTATGGAAGAAAATAATTATTCTCTTCTGGCATCAGTTTG *********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CTACAGTGAGCTCAGATCAAATAGGAAAATACTTGAAATGCATGTCTCAA CTACAGTGAGCTCACATCAAATAGGAAAATACTTGAAATGCATGTCTCAA *********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GCTGCAAGGCAAACTCCATTCCTCATATTAAACTATTACTTCTCATGACG GCTGCAAGGCAAACTCCATTCCTCATATTAAACTATTACTTCTCATGACG ***********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TCACCATTTTTAACTGACAGGATTAGTAAAACATTAAGACAGCAAACTTG TCACCATTTTTAACTGACAGGATTAGTAAAACATTAAGACAGCAAACTTG ***********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TGTCTGTCTCTTTCATTTTCCCCGCCACCAACTTACTTTACCACCTA TGTCTGTCTCTTTCATTTTCCCCGCCACCAACTTACTTTACCACCTA ****************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TGACTGTACTTGTCAGTATGAGAATTTTTCTGAATCATATTGGGGAAGCA TGACTGTACTTGTCAGTATGAGAATTTTTCTGAATCATATTGGGGAAGCA

PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GTGATTTTAAAACCTCAAGTTTTTAAACATGATTTATATGTTCTGTATAA GTGATTTTAAAACCTCAAGTTTTTAAACATGATTTATATGTTCTGTATAA ********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TGTTCAGTTTGTAACTTTTTAAAAGTTTGGATGTATAGAGGGATAAATAG TGTTCAGTTTGTAACTTTTTAAAAGTTTGGATGTATAGAGGGATAAATAG **********
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GAAATATAAGAATTGGTTATTTGGGGGCTTTTTTACTTAC
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AATACAAGGGTATTGATATGAAATTATGTAAATTTCAAATGCTTATGAAT AATACAAGGGTATTGATATGAAATTATGTAAATTTCAAATGCTTA TGAAT **********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CAAATCATTGTTGAACAAAAGATTTGTTGCTGTGTAATTATTGTCTTGTA CAAATCATTGTTGAACAAAAGATTTGTTGCTGTAATTATTGTCTTGTA **********************************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TGCATTTGAGAGAAATAAATATACCCATACTTATGTTTTAAGAAGTTGAG TGCATTTGAGAGAAATAAATATACCCATACTTATGTTTTAAGAAGTTGAG *******************
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ATCTTGTGAATATATGCCTGTCAGTGTCTTCTTTATATATTTTTTTT
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TTAGAAAAATGAAGTTTGGTTGGTGATGCATGAAACAAAATAGCAAGAG AAAAAAAAAAA * ***** **
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AGGGTTATAGTTAATAGTAAGGGAGATAACACAGCATGTGTAGCACCAG
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TTGATAATTGGTCTCTAGTAGCTTACTGTCAAAATGTTCAATGAAGTCTT
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CTGTTCATCTGTTGAAACTAGGAAAATACCCAAACTTAAATGGAAGAATT
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CTGAAAGAGAGATAGAATTTAAAGAACAAGAGTATATAAAGTTATTCTT
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TGAATATTTCATTGACTATATGTACATTGAGTTATCTATATTTGTAAACA
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AATTAGTCATGGAAAATTATTCTATCCCAAAGTCTCCTTTTAGTCTAGAT
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AATCATTATTTCATTTTAAAATTAGTGTTTTTCATAGTTTTGCACTGATGC
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	GTGTATGGATGTGTGAGTCAGTGGTAGCTTATTTAAAAAGCACCTTAT
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CCTTTCTCCCATAACCTTTGTACACTAAAAAATGAAAGAATTTAGAATGT

PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	ATTTGATGATAGCATTCTCACTAAGACACATGAGAATTTAACTTTATAAC
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CGCGTGAGTTAAGATTTAATTCATAGGTTTTGATGTCATTGTTGAAGTTA
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TTTGTAATTCAGAAACCTTGCTTGTGTGATACATAGTAAGTCTCTTCATT
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TATTACTGCTTGTCTGTTATATCTGGATTATCAAAAGCAATAGTGCA
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	CCAATTAAGATGTGCTCAAATCAGGACTTAAATCATAGGCACCACATTTT
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	TCATGTCAGACTAGTTACTTTGTTGATTCTCAGTTACTGTAGGCATCAAA
PF-0622-USN_SEQ_ID_NO_9 gi_4165017_ACS3_Minekura_et_al	AGGCAAAAATCAAAAAAAAAAAAAAAAGG

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